

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 March 2005 (24.03.2005)

PCT

(10) International Publication Number
WO 2005/025803 A1

(51) International Patent Classification⁷: **B23Q 17/22**,
17/24, G01B 11/00, 11/02

(21) International Application Number:
PCT/EP2004/010202

(22) International Filing Date:
13 September 2004 (13.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
BO2003 A 000536
16 September 2003 (16.09.2003) IT

(71) Applicant (for all designated States except US): **MAR-
POSS SOCIETA' PER AZIONI** [IT/TT]; Via Saliceto, 13,
I-40010 Bentivoglio Bo (IT).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **TURRINI, Andrea**
[IT/TT]; Via Barozzi, 6, I-40126 Bologna (IT).

(74) Common Representative: **MARPOSS SOCIETA' PER
AZIONI**; Patent Department, Via Saliceto, 13, I-40010
Bentivoglio Bo (IT).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

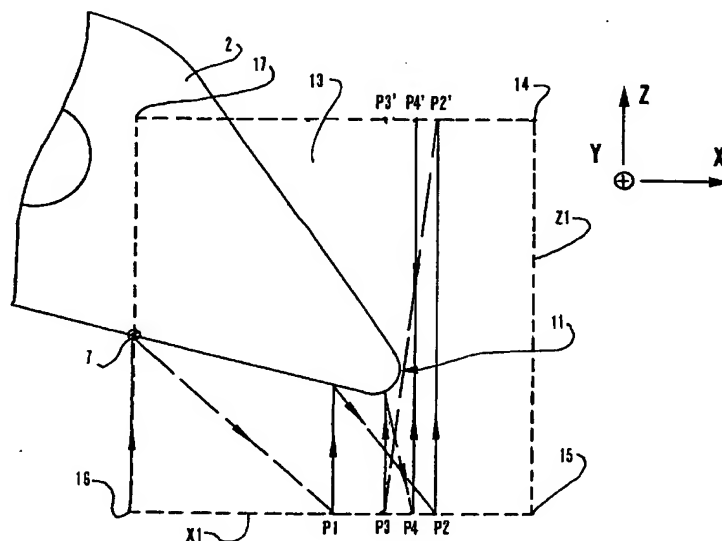
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR CHECKING THE POSITION OF A MECHANICAL PART WITH A LIGHT BEAM



(57) Abstract: A method and a system for checking the position of a mechanical part (2), for example a tool of a lathe, along a checking direction (X), employs an optoelectronic device (1) with a laser beam (7) and a sensor (8) for detecting the interruption of the beam. Mutual displacements between the part to be checked and the optoelectronic device within a checking area (13) are controlled according to a sequence including linear inspection movements (30) along a direction (Z) perpendicular to the checking direction and at inspection positions (Pi;P1-P4). The inspection positions are spaced apart along the checking direction at progressively decreasing mutual distances (D), according to a sequence that converges to the searched position (PN).

WO 2005/025803 A1



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.